



User's Manual

Metolachlor ELISA kit



DEIABL448



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This product is for research use only and is not intended for diagnostic use.

For illustrative purposes only. To perform the assay the instructions for use provided with the kit have to be used.

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PRODUCT INFORMATION

Intended Use

The Metolachlor ELISA is an immunoassay for the detection of Metolachlor. This test is suitable for the quantitative and/or qualitative detection of Metolachlor in contaminated samples. Samples requiring regulatory action should be confirmed by HPLC, GC/MS, or other conventional methods.

Principles of Testing

The test is a direct competitive ELISA based on the recognition of Metolachlor by specific antibodies. Metolachlor, when present in a sample, and a Metolachlor-enzyme conjugate compete for the binding sites of rabbit anti-Metolachlor antibodies in solution. The Metolachlor antibodies are then bound by a second antibody (goat anti-rabbit) immobilized on the microtiter plate. After a washing step and addition of the substrate solution, a color signal is produced. The intensity of the blue color is inversely proportional to the concentration of Metolachlor present in the sample. The color reaction is stopped after a specified time and the color is evaluated using a microplate ELISA photometer. The concentrations of the samples are determined by interpolation using the standard curve constructed with each run.

Reagents And Materials Provided

1. Microtiter plate coated with a second antibody (goat anti-rabbit).
2. Metolachlor Standards (7) and Control (1): 0, 0.1, 0.25, 0.5, 1.0, 2.0, 5.0 ng/mL. Control at 1.5 ng/mL.
3. Antibody Solution (rabbit anti-Metolachlor), 6 mL.
4. Metolachlor-HRP Conjugate Solution, 6 mL.
5. Sample Diluent, 25 mL. Use to dilute samples.
6. Wash Solution (5X) Concentrate, 100 mL.
7. Color (Substrate) Solution (TMB), 12 mL.
8. Stop Solution, 6 mL.

Materials Required But Not Supplied

1. Micro-pipettes with disposable plastic tips (10-200 and 200-1000 μ L)
2. Multi-channel pipette (10-250 μ L) or stepper pipette with plastic tips (10-250 μ L)
3. Microtiter plate washer (optional)
4. Microtiter plate reader (wave length 450 nm)
5. Shaker for microtiter plates (optional)
6. Timer
7. Tape or Parafilm

Storage

The Metolachlor ELISA kit should be stored in the refrigerator (4–8°C). The solutions must be allowed to reach room temperature (20-25°C) before use. Reagents may be used until the expiration date on the box.

Sensitivity

The limit of detection for Metolachlor, calculated as 90% B/Bound, is approximately 0.058 ng/mL. The concentration of residue necessary to cause 50% inhibition (50% B/B₀) is approximately 1.6 ng/mL. Determinations closer to the middle of the calibration range of the test yield the most accurate results.

Reproducibility

Coefficients of variation (CVs) for standards: <10%; CVs for samples:<15%.